

What is claimed is:

1. A gas delivery system for providing a gas to manufacturing equipment, comprising:

5 a gas supply unit for providing the gas to the manufacturing equipment including devices to regulate the supply of gas from the gas supply unit to the manufacturing equipment;

a main control unit for regulating the supply of the gas to the manufacturing equipment; and

10 a supplemental control unit which receives an emergency shutdown signal from the main control unit for closing off the supply of gas in response to a malfunction of the main control unit and generates a signal for maintaining a gas flow to operate the manufacturing equipment until the cause of the malfunction has been determined.

2. The system of claim 1, which further includes a warning unit which cautions a 15 worker regarding the malfunction so that the worker can determine the cause of the malfunction.

3. The system of claim 1, the supplemental control unit has an auto recovery function.

20 4. The system of claim 1, wherein the emergency shutdown signal generated from the main control unit comprises a command for closing off the flow of gas from the gas supply unit.

25 5. The system of claim 1, wherein the supplemental control unit provides for the gas to flow to the manufacturing equipment until the cause of the malfunction has been determined by a worker who then decides when to terminate the gas flow.

30 6. The system of claim 1, wherein the supplemental control unit is coupled to a signal output end of the main control unit so that when the main control unit outputs the emergency shutdown signal, the supplemental control unit receives the emergency shutdown signal.

7. The system of claim 1, wherein the devices to regulate the supply of gas from the gas supply unit to manufacturing equipment comprise on/off valves.

8. The system of claim 7, wherein the on/off valves comprise air operated on/off valves.

9. The system of claim 1, which further comprises a relay for independently supplying power to each of the supplemental control unit and the main control unit.

10 10. The system of claim 1, further comprising a supplemental power supply for providing power to the supplemental control unit independently of the main control unit.

15 11. The system of claim 10, wherein the supplemental control unit further comprises a warning unit which is coupled to the supplemental power supply for cautioning a worker of the malfunction.

12. The system of claim 2, wherein the warning unit is one of a display unit and a warning lamp for displaying the operating status of the main control unit.

20 13. The system of claim 1, further comprising a gas leakage detection unit for sensing a gas leakage and transmitting a gas leakage detection signal to the main control unit such that the main control unit generates the emergency shutdown signal.

25 14. The system of claim 1, further comprising a plurality of gas containers for storing the gas to be supplied to the manufacturing equipment.

15. A gas delivery system comprising:

a gas supply unit which includes a gas flow path for supplying a gas to manufacturing equipment, and a plurality of on/off valves installed along the gas flow path to control the gas stream passing through the gas flow path;

a main control unit for controlling the supply of gas from the gas flow path to the manufacturing equipment; and

a supplemental control unit which receives an emergency shutdown signal from the main control unit and generates a signal for keeping open the plurality of on/off valves for

maintaining a gas flow to operate the manufacturing equipment until the cause of the malfunction has been determined.

16. The system of claim 15, wherein the emergency shutdown signal generated
5 from the main control unit comprises a command for closing off the plurality of valves.

17. The system of claim 15, wherein the supplemental control unit has an auto recovery function.

10 18. The system of claim 15, further comprising a relay for independently supplying power to each of the supplemental control unit and the main control unit.

15 19. The system of claim 15, which further includes a warning unit which cautions a worker regarding the malfunction so that the worker can determine the cause of the malfunction.

20. A method for providing a gas to manufacturing equipment, comprising:
supplying and regulating a flow of the gas to the manufacturing equipment using a main control unit;

20 generating an emergency shutdown signal from the main control unit for closing off the supply of gas in response to a malfunction of the main control unit, the main control unit in communication with a supplemental control unit; and

25 generating a supplemental control signal for maintaining the gas flow to operate the manufacturing equipment from the supplemental control unit until the cause of the malfunction has been determined.

21. The method of claim 20, further comprising:
stopping the flow of gas to the manufacturing equipment if there is a gas leakage.

30 22. A fluid delivery system for providing a fluid to manufacturing equipment, comprising:

a fluid supply unit for providing the fluid to the manufacturing equipment including devices to regulate the supply of fluid from the fluid supply unit to the manufacturing equipment;

a main control unit for regulating the supply of the fluid to the manufacturing equipment; and

5 a supplemental control unit which receives an emergency shutdown signal from the main control unit for closing off the supply of fluid in response to a malfunction of the main control unit, the supplemental control unit generating a signal for maintaining a fluid flow to operate the manufacturing equipment until the cause of the malfunction has been determined.